

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
15 January 2004 (15.01.2004)

PCT

(10) International Publication Number  
**WO 2004/006485 A2**

(51) International Patent Classification<sup>7</sup>:

**H04L**

(74) Agents: TRIPOLI, Joseph, S. et al.; c/o Thomson Licensing Inc., 2 Independence Way Suite 2, Princeton, NJ 08540 (US).

(21) International Application Number:

PCT/US2003/021075

(22) International Filing Date: 7 July 2003 (07.07.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/394,516

9 July 2002 (09.07.2002) US

(71) Applicant (for all designated States except US): THOMSON LICENSING S.A. [FR/FR]; 46, Quai A. Le Gallo, F-92648 Boulogne (FR).

(72) Inventor; and

(75) Inventor/Applicant (for US only): CRAWLEY, Casimir, Johan [US/US]; 13471 Winamac Court, Carmel, IN 46032 (US).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PI, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

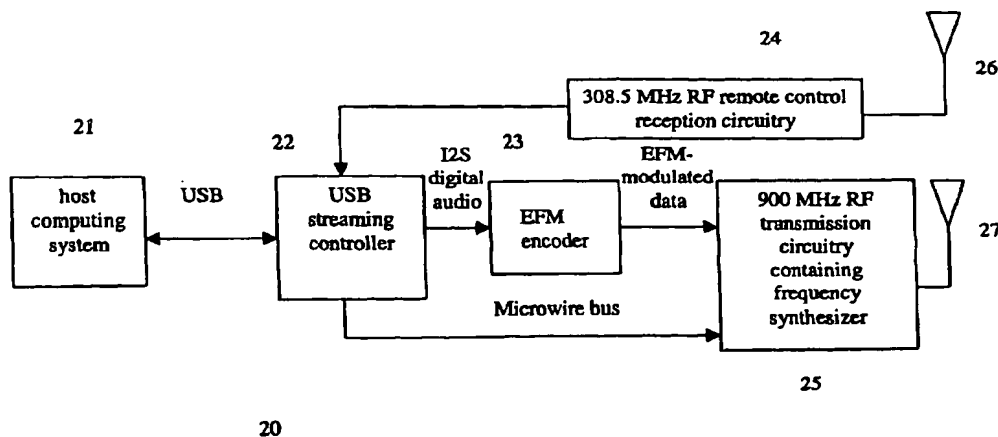
(84) Designated States (regional): ARIPO patent (GI, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

[Continued on next page]

(54) Title: AUTOMATIC WIRELESS EFM CHANNEL HOPPING



(57) Abstract: An apparatus includes a reception circuit (33) with a frequency synthesizer, a decoder (32) for digitally demodulating an audio file signal from the reception circuit, and a processor (34) for initializing the decoder (32) in response to a loss of a phase lock in the demodulating of the audio file signal and setting the frequency synthesizer at one of a plurality of frequencies to re-establish the phase lock in the demodulating of the audio file signal. The plurality of frequencies are 900MHz range channel frequencies. Preferably, the plurality of frequencies are 905 MHz, 911 MHz, 917 MHz and 923 MHz. The decoder includes an eight-to-four modulation EFM digital decoder. Demodulating the audio file signal provides a digital audio stream conforming to an I2S audio format. The processor is preferably a microprocessor (34).